

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) An integrated optic polarization converter comprising a plurality of core layers ~~[[used]]~~configured to approximate a gradually twisted waveguide and therein adiabatically transform a propagating mode from an initial polarization state to a different final polarization state.
2. (Currently amended) The polarization converter of claim 1 wherein at least one of said core layers is tapered along ~~linearly the~~ a length of the polarization converter.
3. (Currently amended) The polarization converter of claim 1 wherein at least one of said core layers is tapered ~~[[non-]]~~linearly along ~~[[the]]~~a length of the polarization converter.
4. (Currently amended) The polarization converter of claim 1, wherein said plurality of core layers ~~comprises~~consists of two core layers.
5. (Currently amended) The polarization converter of claim 1, wherein said plurality of core layers comprises no more than three core layers.
6. (Currently amended) The polarization converter of claim 1, wherein a cross section of a certain number of said core layers is maintained constant along ~~[[the]]~~a length of the polarization converter.
7. (Currently amended) The polarization converter of claim 1, wherein said core layers are separated laterally along ~~[[the]]~~a length of the polarization converter.

8. (Currently amended) A method of using an integrated optic polarization converter, said method comprising:

receiving an initial polarization state; and

forming a plurality of core layers configured to approximate a gradually twisted waveguide and therein adiabatically transform a propagating mode from said initial polarization state to a different final polarization state.

9. (Currently amended) The method of claim 8 wherein at least one of said core layers is tapered ~~linearly~~ along ~~[[the]]~~ a length of the polarization converter.

10. (Canceled)

11. (Currently amended) The method of claim 8, wherein said plurality of core layers ~~comprises~~ consists of two core layers.

12. (Currently amended) The method of claim 8, wherein said plurality of core layers comprises no more than three core layers.

13. (Canceled)

14. (Canceled)

15. (New) The polarization converter of claim 1, wherein each core layer is tapered along a length of the polarization converter.

16. (New) The polarization converter of claim 1, wherein said plurality of core layers consists of two core layers both tapered along a length of the polarization converter.

17. (New) The polarization converter of claim 16, wherein a tapering of one of the two core layers is opposite to a tapering of the other of the two core layers along the length of the polarization converter.

18. (New) The polarization converter of claim 1 wherein said plurality of core layers is configured to geometrically approximate a gradually twisted waveguide.